

**PUBLIC SAFETY DEPARTMENT[661]**

**Adopted and Filed**

Pursuant to the authority of Iowa Code section 103.6, the Electrical Examining Board amends Chapter 504, “Standards for Electrical Work,” Iowa Administrative Code.

The Electrical Examining Board is authorized to adopt administrative rules governing all aspects of the licensing of electricians and electrical contractors and of the state electrical inspection program. The amendment updates rule 661—504.1(103) regarding electrical installations by the adoption of the 2014 edition of the National Electrical Code (NEC), with specified exceptions.

Iowa Code section 103.6(1)“a” requires the Electrical Examining Board to adopt rules that set minimum standards “set forth in the most current publication of the national electrical code issued and adopted by the national fire protection association,” and to “adopt rules reflecting updates to the code and amendments to the code.”

The National Fire Protection Association (NFPA) has developed the National Electrical Code (NEC) since 1911 as part of a family of codes and standards. The NEC is designed to be a uniform approach to electrical work across the country, with the primary goal of protecting people and property from electrical hazards. New editions are issued every three years, after a process that includes input from many groups and individuals interested in electrical issues. Each new edition reflects the newest installation practices in the electrical industry.

Significant changes in the 2014 edition of the NEC reflect changes in communication and energy demands in industrial, business and consumer contexts. Changes in industrial/business and personal consumer reliance on Internet services and communications devices, along with changes in energy demands and technology innovation, resulted in standards that better protect people and property as demands on electrical service increase and change. The changes in the 2014 edition are based on modifications in the industry related to energy efficiency, energy production, residential uses, and special needs for health care facilities.

These types of changes are particularly relevant in Iowa. Iowa economic recovery outpaced other states and has remained strong (Iowa Business Council, 2014 Iowa Competitiveness Indicators (2014); Iowa Workforce Development, “Iowa’s Workforce and the Economy” (2013)). Electrical demand is correlated to economic growth (U.S. Energy Information Administration, “U.S. Economy and Electricity Demand Growth are Linked, But Relationship is Changing” (2013)). Iowa’s plan for more robust broadband and other communications infrastructure suggests that electrical demand will continue to increase (Connect Iowa, “Iowa Broadband: Current Market Analysis & Initial Recommendations for Acceleration of Iowa’s Broadband Market” (August 2010)). Nationally, a 26 percent increase in demand for electricity is expected by 2030 (National Academies, “What you Need to Know About Energy: Electricity” (2014)).

Across the United States, about two-thirds of the states are in the process of examining the 2014 edition of the NEC for adoption. Of the states bordering Iowa, Nebraska and South Dakota have adopted the 2014 edition of the NEC; Minnesota is nearly finished with the adoption process for the 2014 edition of the NEC; Wisconsin has adopted the 2011 edition of the NEC; and there are no statewide standards set in Illinois or Missouri.

Information regarding the economic impact of the adoption of the 2014 NEC indicates that Iowa will benefit from having the most recent version of the NEC. Demands for electrical work are likely to continue to rise, and Iowa can maintain a competitive edge with other states by updating its standards to meet the current industry expectations and to provide better protection and safety for individuals and property.

The Electrical Examining Board sets the statewide minimum standard for electrical work in Iowa. Local communities can impose additional standards, and some local governments have inquired about the statewide adoption of the 2014 NEC requirements.

Prior to publication of the Notice of Intended Action for this amendment, the Electrical Examining Board sought input from interested persons in several ways. In conjunction with the public meetings of the Electrical Examining Board in 2014, the key changes in the 2014 NEC edition were discussed, with presentations by experts and opportunities for input from those in attendance, including board members and the public. A special public meeting was held on March 25, 2014, to encourage interested persons to discuss comments and concerns with a subcommittee of the Electrical Examining Board. In addition to the public notice of the meeting, invitations were sent to groups and licensees who were likely to have an interest in the adoption of the 2014 NEC, including the Iowa Association of Building Officials, the Farm Bureau, the Master Builders of Iowa, the National Electrical Contractors Association, the Home Builders Association, the National Electrical Manufacturers Association, the Associated Builders and Contractors of Iowa, Joint Apprenticeship Training Centers, local unions, and all individuals who signed up for e-mail notifications from the Electrical Examining Board. E-mail notifications were made to at least 800 recipients. After that special meeting, additional comments were provided to the Board, and individuals also provided comments at the April board meeting to discuss their views about the adoption of the 2014 edition of the NEC. Comments were provided to the Electrical Examining Board after the April meeting as well.

Based on input received from organizations and individuals, the Electrical Examining Board adopts the 2014 NEC with three primary exceptions:

(1) Ground-fault circuit-interrupter (GFCI) protection for personnel is required, except for receptacles that are not readily accessible and for a single or duplex receptacle for two appliances within dedicated space for the appliances. The Board has determined that a GFCI located under a kitchen sink is “readily accessible,” which addresses some concerns expressed by contractors.

(2) Lighting load provisions include an exception that accommodates local energy code provisions.

(3) Modification of arc-fault circuit interrupter (AFCI) requirements for replacement receptacles and branch circuit extensions or modifications are excepted because these products are new, experience with them has been limited, and few manufacturers produce the necessary products.

Notice of Intended Action was published in the Iowa Administrative Bulletin on July 23, 2014, as **ARC 1557C**. Public comment was received before, during and after the public hearing on August 12, 2014. Comments from the National Electrical Manufacturers Association, the National Fire Protection Association, and a Des Moines inspector supported the amendment of the rule. A comment from an inspector in Urbandale suggested a clarification by way of an additional definition. A comment from an electrician in Fort Dodge argued against a portion of the proposed amendment, on the grounds that it failed to account for indoor/outdoor electrical access and that the equipment contemplated in the proposed amendment was readily accessible.

This amendment is identical to that published under Notice of Intended Action.

Rules of the Electrical Examining Board are subject to the waiver provisions of rule 661—501.5(103). The Board does not have authority to waive requirements established by statute.

After analysis and review of this rule making, there should be a positive impact on jobs. This rule making lessens the burden for electricians to enter into Iowa’s market, simplifying the examination process. Further, this rule making should allow Iowans to obtain business in other markets. The Board will continue to work with stakeholders to maximize this rule making’s positive impact on jobs.

This amendment is intended to implement Iowa Code section 103.6.

This amendment will become effective January 1, 2015.

The following amendment is adopted.

Amend rule 661—504.1(103) as follows:

**661—504.1(103) Installation requirements.** The provisions of the National Electrical Code, ~~2011~~ 2014 edition, published by the National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471, are adopted as the requirements for electrical installations performed by persons licensed pursuant to 661—Chapters 500 through 503 and to installations subject to inspection pursuant to Iowa Code chapter 103 with the following amendments:

**504.1(1)** Add the following exceptions to section 210.8, paragraph (A), subparagraph (2):

- a. Exception No. 1 to (2): Receptacles that are not readily accessible.
- b. Exception No. 2 to (2): A single receptacle or a duplex receptacle for two appliances located within dedicated space for each appliance that, in normal use, is not easily moved from one place to another and that is cord-and-plug connected in accordance with 400.7(A)(6), (A)(7), or (A)(8).
- c. Receptacles installed under the exceptions to 210.8(A)(2) shall not be considered as meeting the requirements of 210.52(G).

**504.1(2)** Add the following exceptions to section 210.8, paragraph (A), subparagraph (5):

- a. Exception No. 2 to (5): Receptacles that are not readily accessible.
- b. Exception No. 3 to (5): A single receptacle or a duplex receptacle for two appliances located within dedicated space for each appliance that, in normal use, is not easily moved from one place to another and that is cord-and-plug connected in accordance with 400.7(A)(6), (A)(7), or (A)(8).
- c. Receptacles installed under the exceptions to 210.8(A)(5) shall not be considered as meeting the requirements of 210.52(G).

**504.1(3)** Delete section 210.12(B).

**504.1(4)** Delete the exception to section 220.12 and insert in lieu thereof the following exception:

EXCEPTION: Where the building is designed and constructed to comply with an energy code adopted by the local authority, the lighting load shall be permitted to be calculated at the values specified in the energy code.

**504.1(5)** Delete section 406.4(D)(4).

This rule is intended to implement Iowa Code chapter 103.

[Filed 10/16/14, effective 1/1/15]

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EDITOR'S NOTE: For replacement pages for IAC, see IAC Supplement 11/12/14.